

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1-13 (Cancelled)

14. (currently amended) A method for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

detecting acoustic word speech signals from a user;

carrying out a speech recognition operation using a first vocabulary;

assessing probability of correct speech recognition;

prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;

detecting and evaluating letter signals as input by the user;

carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter, using a second vocabulary larger than the first vocabulary;

assessing the probability of correct word recognition; and

terminating spelling and outputting a word obtained with a second desired probability by said assessing the probability of correct word recognition;

wherein the word recognition operation includes:

assigning a letter recognition probability based on the letter speech signals;

determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value; and

a new word list is drawn up in the case of each detected and evaluated letter signal.

15. (cancelled)

16. (currently amended) The method as claimed in claim ~~45~~14,

wherein said assessing the probability of correct word recognition comprises determining whether the word list contains only a single word, and

wherein said terminating spelling and outputting the word is performed if only a single word is contained in the word list.

17. (previously presented) The method as claimed in claim 16, further comprising:

carrying out speech recognition of the word speech signals using the word list with each word assigned a speech recognition probability; and

determining whether a highest speech recognition probability and a second highest speech recognition probability differ from one another by a predetermined threshold value; and

wherein if the predetermined threshold value is exceeded by a difference between the highest and second highest speech recognition probabilities, said terminating spelling and outputting the word is performed for the word in the word list with the highest speech recognition probability.

18. (previously presented) A method for detecting and evaluating word speech signals representing a word from the user of a speech recognition system, comprising:

detecting acoustic word speech signals from a user;

carrying out a speech recognition operation;

assessing probability of correct speech recognition;

prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;

detecting and evaluating letter signals as input by the user;

carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter;

assessing the probability of correct word recognition;

terminating spelling and outputting a word obtained with a second desired probability by said assessing the probability of correct word recognition; and

carrying out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

19. (previously presented) A method for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

- detecting acoustic word speech signals from a user;
- carrying out a speech recognition operation to obtain a speech recognition probability;
- assessing probability of correct speech recognition;
- prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;
- detecting and evaluating letter signals as input by the user of at least one letter, to obtain a letter recognition probability based on each detected letter signal;
- carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter, based on a combined recognition probability using the letter recognition probability and the speech recognition probability;
- assessing the probability of correct word recognition; and
- terminating spelling and outputting a word if the word is obtained with a second desired probability by said assessing the probability of correct word recognition.

20. (previously presented) The method as claimed in claim 19, further comprising generating a word list based on the combined recognition probability.

21. (previously presented) The method as claimed in claim 20, wherein said terminating spelling and outputting the word is based solely on a single interrogation as to whether the combined recognition probability is the second desired recognition probability.

22. (previously presented) The method as claimed in claim 21, wherein said terminating spelling and outputting the word includes

- outputting an appropriate message to the user; and
- terminating said detecting of the acoustic word speech signals.

23. (previously presented) The method as claimed in claim 22, further comprising, after said detecting and evaluating of the letter speech signals respectively representing a letter:

- determining whether the user is continuing to speak;
- continuing said detecting and evaluating and the word recognition operation for next speech signals respectively representing a letter, if the user continues to speak; and

outputting one of the word list and a predetermined number of the words with highest probabilities in the word list, if the user does not continue to speak.

24. (previously presented) A device for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

speech detection means for detecting acoustic word speech signals from a user;

initial speech recognition means for carrying out a speech recognition operation using a first vocabulary;

speech assessment means for assessing probability of correct speech recognition;

means for prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;

letter detection means for detecting and evaluating letter signals as input by the user;

word recognition means for carrying out a word recognition operation, after said letter detection means has evaluated respective letter signals representing a single letter, using a second vocabulary larger than the first vocabulary;

word assessment means for assessing the probability of correct word recognition; and

termination means for terminating spelling and outputting a word obtained with a second desired probability by said word assessment means;

wherein said word recognition means includes means for assigning a letter recognition probability based on the letter speech signals; and

means for determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value; and

a new word list is drawn up in the case of each detected and evaluated letter signal.

25. (cancelled)

26. (currently amended) The device as claimed in claim 25~~24~~,
wherein said word assessment means comprises means for determining whether the word list contains only a single word, and

wherein said termination means terminates spelling and outputs the word if only a single word is contained in the word list.

27. (previously presented) The device as claimed in claim 26,
further comprising:

supplemental speech recognition means for carrying out speech recognition of the word speech signals using the word list with each word assigned a speech recognition probability; and

means for determining whether a highest speech recognition probability and a second highest speech recognition probability differ from one another by a predetermined threshold value; and

wherein if the predetermined threshold value is exceeded by a difference between the highest and second highest speech recognition probabilities, said termination means terminates spelling and outputs the word in the word list with the highest speech recognition probability.

28. (previously presented) A device for detecting and evaluating word speech signals representing a word from the user of a speech recognition system, comprising:

speech detection means for detecting acoustic word speech signals from a user;

initial speech recognition means for carrying out a speech recognition operation;

speech assessment means for assessing probability of correct speech recognition;

means for prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;

letter detection means for detecting and evaluating letter signals as input by the user;

word recognition means for carrying out a word recognition operation, after said letter detection means has evaluated respective letter signals representing a single letter;

word assessment means for assessing the probability of correct word recognition;

termination means for terminating spelling and outputting a word obtained with a second desired probability by said word assessment means; and

supplemental speech means for carrying out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

29. (previously presented) A device for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

speech detection means for detecting acoustic word speech signals from a user;

speech recognition means for carrying out a speech recognition operation to obtain a speech recognition probability;

speech assessment means for assessing probability of correct speech recognition;

means for prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;

letter detection means for detecting and evaluating letter signals as input by the user of at least one letter, to obtain a letter recognition probability based on each detected letter signal;

word recognition means for carrying out a word recognition operation, after said letter detection means has evaluated respective letter signals representing a single letter, based on a combined recognition probability using the letter recognition probability and the speech recognition probability;

word assessment means for assessing the probability of correct word recognition; and

termination means for terminating spelling and outputting a word if the word is obtained with a second desired probability by said word assessment means.

30. (previously presented) The device as claimed in claim 29, further comprising means for generating a word list based on the combined recognition probability.

31. (previously presented) The device as claimed in claim 30, wherein said termination means bases termination of spelling and outputting of the word on a single interrogation as to whether the combined recognition probability is the second desired recognition probability.

32. (previously presented) The device as claimed in claim 31, wherein said termination means comprises:

means for outputting an appropriate message to the user; and

means for terminating detection of the acoustic word speech signals.

33. (previously presented) The device as claimed in claim 32, further comprising:
means for determining whether the user is continuing to speak;
means for continuing the detection, the evaluation and the word recognition operation for next speech signals respectively representing a letter, if the user continues to speak; and
means for outputting one of the word list and a predetermined number of the words with highest probabilities in the word list, if the user does not continue to speak.

34. (previously presented) A communication device for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:
a data bus;
at least one memory device, coupled to said data bus, to store at least one vocabulary and at least one program;
a speech recognition processor, coupled to said data bus, to detect acoustic word speech signals from a user and to carry out a speech recognition operation using a first vocabulary;
a speech output device, coupled to said data bus, to produce audio signals simulating speech; and
a central processor, coupled to said data bus, to assess probability of correct speech recognition, to generate first output signals causing said speech output device to prompt the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability, to evaluate letter signals as input by the user, to carry out a word recognition operation following evaluation of respective letter signals representing a single letter using a second vocabulary larger than the first vocabulary, to assess the probability of correct word recognition, and to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based upon assessment of the probability of correct word recognition;
wherein said central processor also assigns a letter recognition probability based on the letter speech signals and determines a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value; and
a new word list is drawn up in the case of each detected and evaluated letter signal.

35. (cancelled)

36. (currently amended) The communication device as claimed in claim ~~35~~34, wherein said central processor assesses the probability of correct word recognition by determining whether the word list contains only a single word, and terminates spelling and causes output of the word if only a single word is contained in the word list.

37. (previously presented) The communication device as claimed in claim 36, wherein said central processor also carries out speech recognition of the word speech signals using the word list with each word assigned a speech recognition probability and determines whether a highest speech recognition probability and a second highest speech recognition probability differ from one another by a predetermined threshold value, and, if the predetermined threshold value is exceeded by a difference between the highest and second highest speech recognition probabilities, said central processor terminates spelling and causes output of the word in the word list with the highest speech recognition probability.

38. (previously presented) A communication device for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

a data bus;

at least one memory device, coupled to said data bus, to store at least one program;

a speech recognition processor, coupled to said data bus, to detect acoustic word speech signals from a user and to carry out a speech recognition operation;

a speech output device, coupled to said data bus, to produce audio signals simulating speech; and

a central processor, coupled to said data bus, to assess probability of correct speech recognition, to generate first output signals causing said speech output device to prompt the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability, to evaluate letter signals as input by the user, to carry out a word recognition operation following evaluation of respective letter signals representing a single letter, to assess the probability of correct word recognition, to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based upon assessment of the probability of

correct word recognition, and to carry out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

39. (previously presented) A communication device for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, comprising:

a data bus;

at least one memory device, coupled to said data bus, to store at least one program;

a speech recognition processor, coupled to said data bus, to detect acoustic word speech signals from a user and to carry out a speech recognition operation;

a speech output device, coupled to said data bus, to produce audio signals simulating speech; and

a central processor, coupled to said data bus, to assess probability of correct speech recognition, to generate first output signals causing said speech output device to prompt the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability, to evaluate letter signals as input by the user, to carry out a word recognition operation following evaluation of respective letter signals representing a single letter based upon assessment of a combined recognition probability using the letter recognition probability and the speech recognition probability, to assess the probability of correct word recognition, and to terminate the evaluation of respective letter signals and generate second output signals causing said speech output device to output a word obtained with a second desired probability based on the assessment of the combined recognition probability.

40. (previously presented) The communication device as claimed in claim 39, wherein said central processor also generates a word list based on the combined recognition probability.

41. (previously presented) The communication device as claimed in claim 40, wherein said central processor terminates spelling and causes output of the word based solely on a single interrogation as to whether the combined recognition probability is the second desired recognition probability.

42. (previously presented) The communication device as claimed in claim 41,

wherein upon terminating spelling and outputting the word, said central processor also outputs an appropriate message to the user and terminates detection of the acoustic word speech signals.

43. (previously presented) The communication device as claimed in claim 42, wherein, after detection and evaluation of the letter speech signals respectively representing a letter, said central processor also determines whether the user is continuing to speak, and if the user continues to speak the next speech signals respectively representing a letter are detected; while if the user does not continue to speak, said central processor causes outputting of one of the word list and a predetermined number of the words with highest probabilities in the word list.

44. (previously presented) The communication device as claimed in claim 43, wherein said communication device is connectable to telephone lines, further comprising a switching unit coupled to the telephone lines and said data bus.

45. (previously presented) An electronically readable data medium storing at least one computer program to control a processor to perform a method for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, said method comprising:

- detecting acoustic word speech signals from a user;
- carrying out a speech recognition operation using a first vocabulary;
- assessing probability of correct speech recognition;
- prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;
- detecting and evaluating letter signals as input by the user;
- carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter, using a second vocabulary larger than the first vocabulary;
- assessing the probability of correct word recognition; and
- terminating spelling and outputting a word obtained with a second desired probability by said assessing the probability of correct word recognition;
- wherein the word recognition operation includes
- assigning a letter recognition probability based on the letter speech signals; and

determining a word list of all words in the second vocabulary having a letter recognition probability not lower than a highest determined letter recognition probability for any word, minus a first threshold value; and

a new word list is drawn up in the case of each detected and evaluated letter signal.

46. (canceled)

47. (currently amended) The electronically readable data medium as claimed in claim ~~46~~45,

wherein said assessing the probability of correct word recognition comprises determining whether the word list contains only a single word, and

wherein said terminating spelling and outputting the word is performed if only a single word is contained in the word list.

48. (previously presented) The electronically readable data medium as claimed in claim 47,

wherein said method further comprises:

carrying out speech recognition of the word speech signals using the word list with each word assigned a speech recognition probability; and

determining whether a highest speech recognition probability and a second highest speech recognition probability differ from one another by a predetermined threshold value; and

wherein if the predetermined threshold value is exceeded by a difference between the highest and second highest speech recognition probabilities, said terminating spelling and outputting the word is performed for the word in the word list with the highest speech recognition probability.

49. (previously presented) An electronically readable data medium storing at least one computer program to control a processor to perform a method for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, said method comprising:

detecting acoustic word speech signals from a user;

carrying out a speech recognition operation;

- assessing probability of correct speech recognition;
- prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;
- detecting and evaluating letter signals as input by the user;
- carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter;
- assessing the probability of correct word recognition;
- terminating spelling and outputting a word obtained with a second desired probability by said assessing the probability of correct word recognition; and
- carrying out speech recognition of the word speech signals using the letter signals as detected and evaluated, if the correct word recognition is not obtained with the second desired probability.

50. (previously presented) An electronically readable data medium storing at least one computer program to control a processor to perform a method for detecting and evaluating word speech signals representing a word from a user of a speech recognition system, said method comprising:

- detecting acoustic word speech signals from a user;
- carrying out a speech recognition operation to obtain a speech recognition probability;
- assessing probability of correct speech recognition;
- prompting the user to spell out each word for which the probability of correct speech recognition does not reach a first desired probability;
- detecting and evaluating letter signals as input by the user of at least one letter, to obtain a letter recognition probability based on each detected letter signal;
- carrying out a word recognition operation, after said detecting and evaluating of respective letter signals representing a single letter, based on a combined recognition probability using the letter recognition probability and the speech recognition probability;
- assessing the probability of correct word recognition; and
- terminating spelling and outputting a word if the word is obtained with a second desired probability by said assessing the probability of correct word recognition.

51. (previously presented) The electronically readable data medium as claimed in claim 50, wherein said method further comprises generating a word list based on the combined

recognition probability.

52. (previously presented) The electronically readable data medium as claimed in claim 51, wherein said terminating spelling and outputting the word is based solely on a single interrogation as to whether the combined recognition probability is the second desired recognition probability.

53. (previously presented) The electronically readable data medium as claimed in claim 52, wherein said terminating spelling and outputting the word includes
outputting an appropriate message to the user; and
terminating said detecting the acoustic word speech signals.

54. (previously presented) The electronically readable data medium as claimed in claim 53, wherein said method further comprises, after said detecting and evaluating of the letter speech signals respectively representing a letter:
determining whether the user is continuing to speak, and if the user continues to speak the next speech signals respectively representing a letter are detected; and
outputting one of the word list and a predetermined number of the words with highest probabilities in the word list, if the user is not continuing to speak.